[Type of Document] Specification

[Title of the Invention] CAMERA APPARATUS AND METHOD OF TAKING PICTURES

[SCOPE OF PATENT CLAIM]

[CLAIM 1] A camera apparatus, comprising:

a camera unit which acquires an image;

a line-of-sight detection unit which detects a point of eye fixation of a user within a camera screen;

an importance computation unit which determines levels of importance for respective areas of the image acquired by said camera unit in accordance with the detection by said line-of-sight detection unit; and

a number-of-gray-scale-level determining unit which changes a number of gray scale levels for the respective areas of the image in response to the determination by the importance computation unit.

[CLAIM 2] A camera apparatus, comprising:

a camera unit which acquires an image;

a line-of-sight detection unit which detects a point of eye fixation of a user within a camera screen;

an importance computation unit which determines levels of importance for respective areas of the image acquired by said camera unit in accordance with the detection by said line-of-sight detection unit;

and

a color interpolation processing unit which changes color interpolation processing for the respective areas of the image in response to the determination by the importance computation unit.

[CLAIM 3] A camera apparatus, comprising:

a camera unit which acquires an image;

a line-of-sight detection unit which detects a point of eye fixation of a user within a camera screen;

an importance computation unit which determines levels of importance for respective areas of the image acquired by said camera unit in accordance with the detection by said line-of-sight detection unit; and

a sharpness enhancement processing unit which changes sharpness enhancement processing for the respective areas of the image in response to the determination by the importance computation unit.

[CLAIM 4] A camera apparatus, comprising:

a camera unit which acquires an image;

a line-of-sight detection unit which detects a point of eye fixation of a user within a camera screen;

an importance computation unit which determines levels of importance for respective areas of the image acquired by said camera unit in accordance

with the detection by said line-of-sight detection unit; and

a noise removal processing unit which changes noise removal processing for the respective areas of the image in response to the determination by the importance computation unit.

[CLAIM 5] The camera apparatus as claimed in claim 1, wherein said number-of-gray-scale-level determining unit increases the number of gray scale levels in a first area compared with a second area that has a smaller level of importance than the first area.

[CLAIM 6] The camera device as claimed in claim 2, wherein said color interpolation processing unit performs first processing in a first area, and performs second processing in a second area that has a smaller level of importance than the first area, the first processing generating an image having higher quality than the second processing, and the second processing being faster than the first processing.

[CLAIM 7] The camera device as claimed in claim3, wherein the sharpness processing unit performs first processing in a first area, and performs second processing in a second area that has a smaller level of importance than the first area, the first processing generating an image having higher quality than the

second processing, and the second processing being faster than the first processing.

[CLAIM 8] The camera device as claimed in claim 4, wherein said noise removal processing unit performs first processing in a first area, and performs second processing in a second area that has a smaller level of importance than the first area, the first processing generating an image having higher quality than the second processing, and the second processing being faster than the first processing.

[CLAIM 9] A camera apparatus, comprising:

a camera unit which acquires an image;

a line-of-sight detection unit which detects a point of eye fixation of a user within a camera screen;

an importance computation unit which determines levels of importance for respective areas of the image acquired by said camera unit in accordance with the detection by said line-of-sight detection unit; and

an image processing unit which performs at least one of processing of changing a number of gray scale levels for the respective areas of the image, processing of changing color interpolation processing for the respective areas of the image, processing of changing sharpness enhancement processing for the

respective areas of the image, and processing of changing noise removal processing for the respective areas of the image in response to the determination by the importance computation unit.

[CLAIM 10] A method of acquiring an image, comprising the steps of:

acquiring an image;

detecting a point of eye fixation of a user within a camera screen;

determining levels of importance for respective areas of the acquired image in accordance with the detection of the point of eye fixation; and

changing a number of gray scale levels for the respective areas of the image in response to the determined levels of importance.

[CLAIM 11] A method of acquiring an image, comprising the steps of:

acquiring an image;

detecting a point of eye fixation of a user within a camera screen;

determining levels of importance for respective areas of the acquired image in accordance with the detection of the point of eye fixation; and

changing color interpolation processing for the respective areas of the image in response to the

determined levels of importance.

[CLAIM 12] A method of acquiring an image, comprising the steps of:

acquiring an image;

detecting a point of eye fixation of a user within a camera screen;

determining levels of importance for respective areas of the acquired image in accordance with the detection of the point of eye fixation; and

changing sharpness enhancement processing for the respective areas of the image in response to the determined levels of importance.

[CLAIM 13] A method of acquiring an image, comprising the steps of:

acquiring an image;

detecting a point of eye fixation of a user within a camera screen;

determining levels of importance for respective areas of the acquired image in accordance with the detection of the point of eye fixation; and

changing noise removal processing for the respective areas of the image in response to the determined levels of importance.

[Detailed Description of the Invention]

[Field of the Invention]